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INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
Boise, Idaho

ANNUAL REPORT

BOISE BASIN EXPERIMENTAL FOREST

IDAHO CITY, IDAHO

1968

by

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INTRODUCTION

Preparing the Pine-Thorn Timber Sale, administration of the Bannock Creek Salvage Sale, scheduled remeasurements of the Ponderosa Pine Production Study, measurements of the Town Creek plantation, and other research study plots, dominated the 1968 field season at the Boise Basin Experimental Forest. These activities will be discussed in detail under Research Activities and Administrative Activities.

RESEARCH ACTIVITIES

SILVICULTURE RESEARCH

Management of old-growth pine.--The first remeasurement of diameter and height growth of regression data trees and sample poles on the second replication of the Ponderosa Pine Production Study (P.P.P.S.) was completed in August of 1968. Compartments in this study (424)[1/] that were measured are 1, 3, 5, 6, 10, 17, 20, and 23. In September of 1968 mortality measurements were taken on these same compartments.

Regeneration.--Seedlings of the clump planting of ponderosa pine that did not survive the 1966-67 planting were replaced with 3+0 stock in May of 1968. This is an exploratory study started in 1966.

Height measurements were taken of the Town Creek plantation (448) located near Centerville, Idaho in November of 1968. This plantation was established over a 5-year period, 1954-1958. The last height measurements were taken in 1958.

1/ Study numbers in parentheses.

Survival and height were measured for the final time on the mulching study (494) located on the Boise Basin Experimental Forest in October of 1968. This study is a supplement to the Zena Creek mulching study.

A Douglas-fir regeneration study is being proposed for the Bannock Creek Salvage Sale area on the B.B.E.F. This study will evaluate effects of lifting date, length of storage period, planting date, and shading for Douglas-fir planting stock from the Lucky Peak Nursery. Russ Ryker will plan and conduct this study.

Russ Ryker and Gary Baertsch collected pollen and attempted to collect seed from aspen clones located on the B.B.E.F. in April-May 1968. Dr. Burton Barnes, University of Michigan, requested these collections from clones he had sampled in 1967. Since no seed was produced in 1968, we agreed to repeat the collection in 1969.

FOREST CONDITIONS

Fire weather.--Regular daily and 10-day fire weather reports were sent to the Fire Dispatcher at the Supervisor's Office in Boise, Idaho from the Idaho City Ranger District where records are mainted. Fire danger during the season of 1968 remained high to very high from June 25 thru August 9. Approximately 5 inches of rain fell during the last 20 days of August.

Precipitation and temperature.--Daily precipitation and temperature records are maintained by a Weather Bureau Station at Idaho City. Averages for 1968 were:

Table 1. Idaho City precipitation and temperature, 1967
Figures in parentheses are 38-year (1931-1968) averages

Month	Monthly precipitation	Mean monthly temperatures
January	1.94 (3.53)	25.1 (23.3)
February	5.15 (3.13)	34.9 (28.2)
March	1.10 (2.48)	40.2 (34.4)
April	.88 (1.77)	40.5 (43.7)
May	1.13 (1.74)	49.1 (52.2)
June	1.70 (1.44)	58.7 (58.5)
July	T (0.30)	68.3 (66.7)
August	4.89 (0.46)	60.8 (64.8)
September	.33 (0.65)	55.7 (57.2)
October	1.15 (1.62)	45.2 (47.8)
November	3.77 (2.82)	34.5 (34.1)
December	5.06 (4.31)	26.5 (26.9)
Annual	27.10 (24.25)	45.0 (44.8)

Streamflow.--U.S. Geological Survey maintains a stream gage on Bannock Creek which drains 5.75 square miles (3,680 acres), all within the Experimental Forest. Average discharge over 19 years (1939-41, 1950-67) was 2.09 cubic feet/second or 1,510 acre feet per year. Maximum discharge during 1967 was 7.5 cubic feet/second on May 23. Minimum discharge was 0.16 cubic feet/second on the days of August 15-19, 31 and September 1. The 1968 data is not available at this time.

Fire.--The Experimental Forest did not have a fire in 1968.

Dwarfmistletoe.--Throughout the Bannock-Pine unit of the Experimental Forest dwarfmistletoe (Arceuthobium) is wide spread in the Douglas-fir stands. Overstory removal and regeneration thinning are planned as controlling methods.

Insects.--Douglas-fir bark beetle (Dendroctonus pseudotsugae Hopkins) is the most prevalent among the insects. A few scattered trees have been killed by the western pine beetle (Dendroctonus brevicomis) and the Black Hills beetle (Dendroctonus ponderosae). A wet and cool spring and summer seem to have been at least partly responsible for a decline in the Ips population after heavy infestation in 1966 and 1967. Logging of the Bannock Creek salvage sale has helped to control the Douglas-fir bark beetle in the southeast portion of the Experimental Forest, but there are still scattered groups (up to ½ acre) of trees being killed by the Douglas-fir beetle in the Bannock-Pine Unit. The western pine bark beetle and Black Hills bark beetle have been found in this Unit.

ADMINISTRATIVE ACTIVITIES

TIMBER SALES

Bannock Creek Salvage Sale.--Logging of the Bannock Creek Salvage Sale located on the upper Bannock Creek drainage was completed in 1968. Cutting started in January 1968 with the logs being hauled from May to November 6, 1968. The contractor exceeded the contract deadline by 37 days. The estimated volume of 2.9 MM board feet was low as 4.5 MM board feet were removed from the sale area. There was a timber reappraisal on September 30, 1968, and the timber price increased from $3.00 per M to $17.00 per M.

There has been no site preparation done to date. Broadcast burning is planned for 1969, spraying in 1970, and planting of ponderosa pine and Douglas-fir in 1971.

Pine-Thorn Timber Sale.--The Cottonwood Ranger District and the B.B.E.F. have combined two logging sales into one large regional timber sale known as the Pine-Thorn Timber Sale.

That portion of the Pine-Thorn Timber Sale which lies within the Experimental Forest boundary is located in the upper Pine Creek drainage and is 1,180 acres in size. This is a release cutting with all trees 12" D.B.H. and larger to be removed. Logging will be done over a 3-year period on the Experimental Forest, 1969-1971.

Preparation of this sale is a joint effort of Boise National Forest and Intermountain Station personnel. Volume estimates were obtained from a variable plot cruise by Cottonwood Ranger District personnel. Gary Baertsch and Roland Shaw did the sample cruising. The estimate is 7 MM board feet P.P. and 2 MM board feet D.F.

Commercial Thinning.--This past year there have been three different small logging operators interested in a post, pole, and small log commercial thinning sale in the Bear Run Unit. This sale will be set up in 1969.

FOREST ROADS

Gary Baertsch and Roland Shaw located and flagged 7.5 miles of work roads on the Pine-Thorn Timber Sale. These roads will be built prior to logging in 1969.

Ralph Geibel, Boise National Forest Engineer, located 2.5 miles of SL 12 road along the Thorn Creek Butte Trail Ridge. This road will be the main log-hauling road for the Pine-Thorn Timber Sale. It is also part of the development of a winter recreation area to be located on the Cottonwood Ranger District.

Boise National Forest road crews finished that portion of the Nowat Gulch road #10369 located on State land in August of 1968. This road is now complete and connects the West Bannock road #10305 and the Pine Creek road #10304. In addition, all system roads were maintained where they needed it.

The Boise Basin Experimental Forest has 36.2 miles of existing system roads and 4.5 miles planned for construction. There are 14 miles of non-system roads and 7.5 miles planned for construction in 1969.

Boise Basin Experimental Forest system road inventory is shown in Table 2.

SYSTEM ROAD INVENTORY
BOISE BASIN EXPERIMENTAL FOREST
(Revised January 14, 1969)

Road number	Road name	Design class		Miles		Termini	Cost	
		Existing	Planned	Existing	Planned		Current	Estimated
10304	Pine Creek	SL 14		7.2		10303-10303	$43,000	$
10369	Mowat Gulch	SL 10		2.0		10304-10305	13,325	
10370	Alexander Bulch	SL 10		1.0		10304-Sec. 7	8,705	
	Thorn Cr. Butte Ridge		SL 12		2.5	10304-10303		20,000
10517	Walla Walla Gulch		SL 12		2.0	Hi-way 21 - Road Z		16,000
10305	West Bannock	SL 12		3.8		10303-10304	24,348	
10371	Upper Research	SL 12		2.4		10303-Sec. 16	22,494	
10308	Cemetery	SL 10		0.7		10307-Sec. 22	3,000	
10309	Headquarters	SL 12		0.4		10307-Hdq.	1,500	
10296	Peg Leg	SL 10		1.5		10307-Sec. 23	4,817	
10324	Bear Run	SL 12		4.0		10314-10314	30,381	
10314	Freeman Peek	SL 12		4.0		10307-Sec. 7	8,460	
10303	Cottonwood-Bannock Cr. (Boise N.F. Road)			7.2				
10307	Idaho City-Horseshoe Bend (Boise N.F. Road)			2				
	Total Miles			36.2	4.5			

Table 2.

FIRE PROTECTION

The B.B.E.F. fire plan was revised last in 1962 with additions in 1968. This fire plan is considered a supplement to the Boise National Forest and the Idaho City District Fire Plans. It outlines the Experimental Forest's responsibilities, and provides an action plan for the headquarters area. Research personnel carried out these responsibilities in 1968. A fire line was built by Idaho City between the headquarters buildings and the cemetery where there is a constant fire threat because of tourist activities. Waterfills for fire suppression were designed in the Bannock-Pine Unit in 1968 and will be signed prior to the 1969 field season by B.B.E.F. personnel.

TIMBER STAND IMPROVEMENT

Thinning was started in compartment 35 of the All-Out Conversion Cutting (529) in October of 1968 by Idaho City Ranger District personnel. Approximately 5 acres of ponderosa pine have been thinned. Gary Baertsch and Roland Shaw thinned an additional 1 acre of Douglas-fir for demonstration purposes. Thinning will be continued in 1969.

IMPROVEMENTS AND MAINTENANCE

1. In May, a water sample was tested for intestinal bacteria. They found none.
2. The water supply at the Station headquarters was very low in July and the first 15 days of August and had to be used sparingly. Plans for improving the water system have been discussed by Ben Plowgian, INT Engineer, Ogden, and Dale Hall, Silviculture Research Work Unit (RWU) Project Leader, Boise.

3. Two fire hydrants and hoses located at the Station headquarters were checked. One valve would not turn on and was subsequently repaired.

4. The Experimental Forest entrance sign to the Headquarters area was repainted.

RESIDENCE

Gary Baertsch occupied the south dwelling from May 1 thru September 27, 1968. Barry Sheakley, Forester from Idaho City Ranger District, moved into the south dwelling September 29, 1968, and is still occupying it.

Dale Potter occupied the north dwelling from June 4 thru September 10, 1968.

The bunkhouse was occupied by Roland Shaw where he "batched" from May 13 thru August 30, 1968.

The lodge was occupied off and on during the field season by Station and Cottonwood Ranger District personnel.

PERSONNEL

Employees:

Name	Position	Dates
Gary Baertsch	Forestry Res. Tech.	5/ 6/66 - present
Dale Potter	Forestry Res. Tech.	5/ 1/63 - 9/10/68
Roland Shaw	Forestry Aid	5/13/68 - 8/30/68

Dale Potter, Forestry Research Technician, has been on educational leave at the University of Idaho. He returned to work for the three summer months and terminated September 10, 1968, to continue his education at the University of Washington.

Roland Shaw, a student at the University of Idaho, did an excellent job in assisting with research activities and other assigned duties.

OFFICIAL VISITORS

Visitors	Date	Purpose
Dale Hall Walter Megahan Jim Clayton Gary Baertsch INT, Boise Jack Wilcox Idaho City R. D.	Feb. 21	Inspection of work roads on the Bannock Creek Salvage Sale
Dale Hall INT, Boise Jerry Larson Ralph Geibel Wallace Bunnell Leo Dub Boise Nat. Forest Personnel	June 6	Inspection of the Thorn Creek Butte Ridge road location
Ben Plowgian INT Engineer Dale Hall INT, Boise	June 24-25	Inspection of B.B.E.F. Headquarters water system for improvements. Also inspection of road systems
Dale Hall Walter Megahan INT, Boise Rulon Gardner INT, Bozeman Delon Hampton Howard University, Washington, D.C.	July 18	Orientation to batholith timber conditions
Cottonwood Ranger District Personnel	July 1-24	Used the B.B.E.F. facilities while working in the Idaho City area
Dale Hall Walter Megahan INT, Boise John Arnold R-4 Zone Soil Scientist Jerry Knopf R-4 Zone Entomologist Don Reed Idaho City R.D. Fire Control Officer Garry Baertsch Res. Tech., B.B.E.F.	Aug. 21	Bannock Creek Salvage Sale Inspection. Observe and discussion of broadcast burning the upper portion of the sale area

Visitors	Date	Purpose
Dale Hall Walter Megahan INT, Boise Frank Pitts Superintendent, Mountain Home Job Corps Center	Aug. 23	Examined possible sites for construction of a sediment dam in upper Bannock Creek
Ben Plowgian INT Engineer, Ogden	Oct. 4	B.B.E.F. Building maintenance inspection
Russ Ryker INT, Boise Woody Doupe Boise Nat. Forest Gilbert Schubert Rocky Mountain Station Robert Wagle Univ. of Arizona Howard Loewenstien Univ. of Idaho Frank Pitkin Univ. of Idaho	Oct. 11	Western Regional Regeneration Committee Field trip
Vern Fridley Boise Nat. Forest Caldwell High School Forestry Club	Nov. 2	Thinned a small area of young ponderosa pine in Compt. 31 on the Experimental Forest

PRESS AND TV

May 1, 1968, KBOI News gave TV coverage on the progress of logging on the Bannock Creek Salvage Sale.

Action Post, a question and answer section of the Statesman Newspaper, was questioned by someone who wanted to know what the Forest Service objectives were in the Bannock Creek Salvage Sale. Bob Lorrimer of the Statesman pointed out the objectives very well.